

**GENES IDENTIFIED AS REQUIRED FOR PROLIFERATION OF E.  
COLI**

Abstract of the Disclosure

5       The sequences of nucleic acids encoding proteins required for *E. coli*  
proliferation are disclosed. The nucleic acids can be used to express proteins or portions  
thereof, to obtain antibodies capable of specifically binding to the expressed proteins, and  
to use those expressed proteins as a screen to isolate candidate molecules for rational drug  
discovery programs. The nucleic acids can also be used to screen for homologous genes  
10       that are required for proliferation in microorganisms other than *E. coli*. The nucleic acids  
can also be used to design expression vectors and secretion vectors. The nucleic acids of  
the present invention can also be used in various assay systems to screen for proliferation  
required genes in other organisms as well as to screen for antimicrobial agents.

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